



John

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of: LIU, Zhen et al.

Application No.: 10/800,305

Group Art Unit: To Be Assigned

Filed: March 13, 2004

Examiner: To Be Assigned

For:

Atty Docket No.: YOR920040072US1

METHODS AND APPARATUS FOR
CONTENT DELIVERY VIA APPLICATION
LEVEL MULTICAST WITH MINIMUM
COMMUNICATION DELAY

**INFORMATION DISCLOSURE STATEMENT
PURSUANT TO 37 C.F.R. §§ 1.56 & 1.97(b)(1)**

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

In accordance with the duty of disclosure provisions of C.F.R. § 1.56, Applicants hereby submit and bring to the Examiner's attention the 21 references listed on the three enclosed substitute for form 1449/PTO. Copies of all of the cited references are enclosed. It is requested that the Examiner make this information of record in the case by initialling each reference, signing and dating each sheet and returning a copy of the signed sheets to the applicants.

Since this Information Disclosure Statement is being filed under 37 C.F.R. §1.97(b)(1) within three months of the U.S. patent application filing date, no fee is believed due.

Respectfully submitted,

Dated: May 13, 2004

George A. Willingham, III
George A. Willingham, III (Reg. No. 41,377)
Attorney for Applicants
3201 New Mexico Avenue, N.W., Suite 350
Washington, D.C. 20016
202-895-1394 (telephone)

CERTIFICATION UNDER 37 C.F.R. 1.8(a)

I hereby certify that this paper is being deposited with the United States Postal Service as first class mail in the envelope addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on MAY 13, 2004.

George A. Willingham, III
(Name)

George A. Willingham, III
(Signature)

41,377 May 13, 2004
(Reg. No.) (Date of Signature)



PTO/SB/08B (08-03)

Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)		Complete if Known			
		Application Number	10/800,305		
		Filing Date	March 13, 2004		
		First Named Inventor	LIU, Zhen		
		Art Unit	TO BE ASSIGNED		
		Examiner Name	TO BE ASSIGNED		
Sheet	1	of	3	Attorney Docket Number	YOR920040072US1

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		Akamai Corporation. Internet Bottlenecks: The Case for Edge Delivery Services, 2000. Akamai whitepaper.	
		S. Arora. "Polynomial-time Approximation Schemes for Euclidean TSP and other Geometric Problems", Journal of the ACM 45(5) 753-782, 1998.	
		S. Banerjee, B. Bhattacharjee and C. Kommareddy, Scalable Application Layer Multicast, in Proceedings of ACM Sigcomm 2002.	
		Y. Chawathe, S. McCanne, and E. A. Brewer, RMX: Reliable Multicast for Heterogeneous Networks, in Proceedings of IEEE Infocom, 2000.	
		Y. Chu, S. Rao, S. Seshan, and H. Zhang. Enabling Conferencing Applications on the Internet Using an Overlay Multicast Architecture. August 2001.	
		Y. Chu, S. Rao, and H. Zhang, "A case for end system multicast," in Proceedings of ACM Sigmetrics, June 2000.	
		C. Diot, B. Levine, B. Lyles, H. Kassem, and D. Balensiefen. Deployment Issues for the IP Multicast Service and Architecture. IEEE Network Magazine, Jan/Feb 2000.	
		P. Francis, Yoid: Extending the Internet Multicast Architecture, http://www.icir.org/yoid/docs/yoidArch.ps.gz (April 2000).	
		J. Jannotti, D. Gifford, K. Johnson, M. Kaashoek, and J. O'Toole, Overcast: Reliable Multicasting with an Overlay Network, October 2000.	
		J. Liebeherr and M. Nahas. "Application-layer Multicast with Delaunay Triangulations", Global Internet Symposium, IEEE Globecom 2001, November 2001	

Examiner Signature		Date Considered	
---------------------------	--	------------------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO:

Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>		Complete if Known	
		Application Number	10/800,305
		Filing Date	March 13, 2004
		First Named Inventor	LIU, Zhen
		Art Unit	TO BE ASSIGNED
		Examiner Name	TO BE ASSIGNED
Sheet 2	of 3	Attorney Docket Number	YOR920040072US1

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		N. M. Malouch, Z. Liu, D. Rubenstein and S. Sahu. "A Graph Theoretic Approach to Bounding Delay in Proxy-Assisted, End-System Multicast", (IWQoS 2002).	
		T. S. E. Ng and H. Zhang, "Predicting Internet Network Distance with Coordinates-Based Approaches", INFOCOM'02, New York, NY, June 2002.	
		D. Pendarakis, S. Shi, D. Verma and M. Waldvogel, "ALMI: An Application Level Multicast Infrastructure", (USITS), March 2001.	
		S. Ratnasamy, P. Francis, M. Handley, R. Karp, and S. Shenker, A scalable content-addressable network in Proceedings of ACM SIGCOMM (August 2001).	
		S. Shi. "Design of Overlay Networks for Internet Multicast". Ph.D. Thesis, Washington University in St. Louis, August 2002.	
		S. Shi, J. S. Turner. "Routing in Overlay Multicast Networks", IEEE INFOCOM, New York City, June 2002.	
		S. Shi, J. S. Turner and M. Waldvogel. "Dimensioning Server Access Bandwidth and Multicast Routing in Overlay Networks", (NOSSDAV 2001), Port Jefferson, New York, June, 2001.	
		I. Stoica, R. Morris, D. Karger, M. F. Kaashoek, and H. Balakrishnan. Chord: A scalable peer-to-peer lookup service for Internet applications, 2001.	
		Z. Wang and J. Crowcroft. Bandwidth-delay Based Routing Algorithms. In IEEE Globecom'95, November 1995.	
		B. Zhang, S. Jamin, L. Zhang, Host Multicast: A Framework for Delivering Multicast To End Users, in Proceedings of IEEE Infocom (2002).	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Complete if Known

Application Number	10/800,305
Filing Date	March 13, 2004
First Named Inventor	LIU, Zhen
Art Unit	TO BE ASSIGNED
Examiner Name	TO BE ASSIGNED
Attorney Docket Number	YOR920040072US1

Sheet 3 of 3

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		J. Liebeherr and M. Nahas. "Application-layer Multicast with Delaunay Triangulation Overlays".	

Examiner
SignatureDate
Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.